

## 4. Ecosystem Restoration Program/Levee Program Coordination

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Levee maintenance activities sometimes conflict with management of terrestrial and aquatic habitat resources on or around levees. For instance, vegetation provides valuable habitat but can complicate levee maintenance activities. A common stakeholder concern is that actions to control levee and channel vegetation are often delayed or precluded because of potential impacts on endangered species. Although in some cases vegetation may provide erosion control benefits, in general, vegetation on levees is not desirable for maintenance and emergency response purposes. Bare levees are easier to inspect. Vegetation may conceal evidence of instability, erosion damage, and burrow holes. In addition, the vegetation may provide shelter for, and foster the establishment of, burrowing animals. Deep-rooting plants may threaten the integrity of the structural cross section. When deep-rooting plants are pulled away by wave action or high winds, they can leave gaping holes in levee cross sections, leading to failure of the levee. Although vegetation on levees is not precluded by OES or FEMA, vegetation may hamper flood fighting by impeding the application of sand bags or plastic membrane to levees. Vegetation on levees may make use of some levee maintenance equipment difficult or impossible; therefore, vegetated levees may require more labor-intensive levee maintenance activities. The application of riprap or other erosion protection materials may require clearing established vegetation.

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The value of riparian habitat as a critical resource for many fish and wildlife species must be respected; however, many issues regarding vegetation on levees require resolution. Sometimes when vegetation on the levee is feasible or even desirable for erosion control, local agencies maintain unvegetated levee slopes in order to avoid the need to contend with endangered species requirements. This conflict contributes to reducing the environmental quality in the Delta.



## 4.1 CURRENT PROGRAM

This section discusses actions in the existing Subventions Program to address potential conflicts between environmental restoration and levee maintenance efforts. Actions have been taken to ensure that levee maintenance and reconstruction does not work against efforts to protect and establish fish and wildlife habitat in the Delta. The existing Delta Levee Subventions Program established by Senate Bill (SB) 34 and amended by SB 1065 contained a requirement that levee maintenance result in “no net habitat loss.” The Program was further amended by AB 360, which established that levee maintenance work funded under the Delta Levee Subventions Program must result in net habitat **improvement**. A memorandum of understanding (MOU) has been negotiated among DWR, the Board, The Resources Agency, and DFG. DWR and DFG have developed mechanisms to implement the habitat requirements of the Subventions Program, including collecting data to create an environmental database using GIS technology, identifying sites for habitat restoration, and coordinating with local agencies to develop methods to document restoration efforts.

In addition, California Water Code Section 12300 requires that projects funded under the Delta Levee Subventions and Special Projects Programs, currently administered by DWR, be consistent with CALFED’s Delta ecosystem restoration strategy. DWR and DFG have coordinated with the near-term Restoration Coordination Program (Category III) and have championed several Category III projects furthering levee and habitat restoration coordination.

## 4.2 PROPOSED PROGRAM

This section presents the Levee Program’s strategy to address conflicts between the Levee Program and the Ecosystem Restoration Program. The Levee Program will build on the success of existing programs, such as the AB 360 program, in developing methods for successful levee and ecosystem coordination. Levee Program and Ecosystem Restoration Program staff are working in close coordination to develop additional strategies that will minimize conflicts between goals of the two programs. Program staff jointly developed cross sections that would minimize potential conflicts. Figure 5 (at the end of the report) illustrates possible strategies for levee and habitat improvements. Figures 6a through 6e (at the end of the report) depict the strategies selected for future analysis and development. Additional guidelines to successfully integrate habitat and levee integrity concerns are discussed below.

In general, it is desirable to provide separation of the habitat from the levee cross section. An existing environmental baseline must be set, and all existing habitat required to meet AB360 habitat goals should be relocated off the levee structural cross section where possible. Other vegetation on the levees must not impinge on the structural levee section. The structural section is the minimum section required for levee integrity; therefore, additional material must be placed above and beyond the levee structural section to accommodate vegetation. For instance, deep-rooting plants should not be allowed on levee sections unless the levee is larger than the required stable cross section. Also, the use of setback levees to create new riparian and wetland habitat in areas underlain with peat is not recommended because of the high cost of building new levees on peat. Peat is generally weak and highly compressible; therefore, levees built on peat will subside substantially and may require many years to stabilize. Instead, maximum use will be made of in-channel islands and waterside berms for

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such opportunities. Setback levees could be considered along the edges of the Delta where mineral soil or thin, shallow peat layers are found.

The Levee Program seeks to minimize habitat-related conflicts with local maintenance agencies. Levee Program staff are working with Ecosystem Restoration Program staff and regulatory agency staff to determine whether a tool similar to the safe harbor policy as written in draft federal regulations can be developed as part of the CALFED conservation strategy. The AB 360 program has in place some “sustainable yield” routine maintenance agreements that implement “safe-harbor”-type provisions, and the Levee Program will seek broader application of these types of principles. Also, the inclusion of multi-use improvements, such as access roads or staging areas for local agencies on the levee sections, will be encouraged where feasible. These improvements will provide local agencies incentives to allow some vegetation growth on their levees. This coordination could benefit both levee maintenance efforts and habitat development.

CALFED Levee Program and Ecosystem Restoration Program staff coordinate with DFG staff, who have identified many potential restoration sites in the Delta. In addition, the Levee Program is working to coordinate the selection of Ecosystem Restoration Program levee habitat restoration sites with local residents who have greatest knowledge of the Delta terrain. A small task force, including representatives of North, Central, and South Delta Water Agencies; the Delta Protection Commission; and the National Heritage Institute assembled to identify attractive sites for habitat restoration. Their efforts resulted in a report titled, “Alternative Proposals for CALFED Ecosystem Restoration Program in the Delta.” Appendix H, “Proposals for Ecosystem Restoration,” presents this report in which possible Ecosystem Restoration Program/Levee Program coordination sites are identified.

In addition, the Levee Program made a public outreach effort, soliciting input from local landowners and reclamation districts in identifying desirable sites for Ecosystem Restoration Program/Levee Program coordination. Letters were sent to all Delta local agencies describing the program goals and asking for recommended locations to create the desired habitats along the levees. The Levee Program received several responses from local agencies. These responses included a proposal to use the dredger cut along the San Joaquin River reach on Webb Tract and to consider the levee on the southern edge of Faye Island for habitat development. The Levee Program and Ecosystem Restoration Program will consider the use of these sites, as well as the sites recommended by the task force for Levee Program/Ecosystem Restoration Program coordination.

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